DE-SOL-0000638
Questions & Answers L-132 through L-143 & Revised L-13 and L-14
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Question L-132: Please provide a radiation survey of the controlled areas of the facility, including the hot cell.

Answer: Reference Section L, Attachment L-4 Representative Sample Task. Offerors should assume that there is no radiation survey information is available for the controlled areas of the facility including the hot cell.

Question L-133: The hot cell operations created a substantial inventory of high curie fission products which are distributed throughout the hot cell and support facilities. Please provide offerors an inventory of the wastes from the MRB to be used for proposal purposes. The waste categories are: LLRW, MLLW, CH TRU RH TRU and 10-100 nCi/gm.

Answer: Reference Section L, Attachment L-4 Representative Sample Task, Section 4.3. Remaining Waste and Materials Inventory are provided in Table 7 with the exception of the suspected samples in the within-floor storage tubes in Area 2. There is no TRU waste besides that which is shown in Table 7. All other waste inventories such as demolition debris or decontamination waste will be determined by information provided in the sample task and will also be determined, in part, by the offeror's approach.

Question L-134: 4.3 Fuel Specimen and Material Research Hot cell Facility Background
Page 7 of 34, middle of second paragraph states, " Known radiological risks at the FSMHF include, but are not limited to, uranium 238, uranium 235, strontium 90, and cesium 137, with smaller amounts of plutonium 235, plutonium 238, plutonium 241, plutonium 240, plutonium 239, and americium 241. What is the relative concentration of the isotopes listed above?

Answer: Reference Section L, Attachment L-4 Representative Sample Task, Section 4.3. Offerors should assume that the relative concentration of the isotopes is not a constant and varies within the contamination areas.

Question L-135: What is the Mixed Fission Product Inventory in the cans?

Answer: Reference Section L, Attachment L-4 Representative Sample Task, Table 7 and Section 4.3, 5th paragraph. As stated in the Sample Task, the "… and consisting of …. one-gallon paint cans of residues from previous work and prior hot cell floor cleanups, consisting of sample cutting and grinding residues, grinding papers, and dust." Because of the source of the material, the Mixed Fission Product inventory is not well characterized and the isotopic inventory is unknown. As shown in Table 7, the uranium quantity is known as well as the PU239. Thie uranium and PU239 material was enriched for use as fuel for a light water reactor. The enrichment is approximately 4% U235. Some of the Uranium 235 has been irradiated and offerors should assume that there are other byproduct isotopes in the cans.

The solicitation will be amended.

Question L-136: Are the containers in the hot cell in the ranges of 1R/hour at container surface the same containers referenced in Table 7?

Answer: Reference Section L, Attachment L-4, Representative Sample Task, Section 4.3, 5th paragraph. Section 4.3 "Fuel Specimen and Material Research Hotcell Facility Background" states "Radiation levels associated with some containers in the Hotcell are in the range of 1 R/hour at container surface. An inventory of remaining known wastes in the FSMHF is provided in Table 7….". The 1 R/hour dose rate is associated with the containers in the Hotcell and is part of the waste listed in Table 7. In addition, the Hotcell contains residual contamination exceeding the DOE-STD-1027 radionuclide threshold for a Hazard Category 2 Nuclear Facility.

The solicitation will be amended.

Question L-137: 4.3 Fuel Specimen and Material Research Hot cell Facility Background. Page 7 of 34, end of second paragraph states, "An inventory of remaining known wastes in the FSMHF is provided in Table 7 consisting of a few containers with sealed sources that have not undergone DOT or ANSI testing and one-gallon paint cans of residues from previous work and prior hot cell floor cleanups, consisting of sample cutting and grinding residues, grinding papers, and dust. There are also suspected to be a number of samples in the within-floor storage tubes in Area 2." What assumptions should offerors make regarding the enrichment of the U-235? What assumptions should the offerors make regarding the isotopic ratios of the Pu?

Answer: Refer to Answer to Question L-135.

Question L-138: Attachment L-4, Section 4.3, Page 9: The last paragraph of Section 4.3, just before Section 4.4, discusses Safety Support Systems and states that there are no safety class SSCs. In light of the answer to Question L-14 regarding the quantity of U-235 in each residue can, is the Category 2 categorization of the facility based on inventory or a potential criticality? If the latter, does the High Gamma Alarm System also function as a CAAS?

Answer: Refer to the revised answer to Question L-13 and the answer to Question L-136. Hazard Category 2 categorization of the facility is based on inventory and not potential criticality.

Question L-139: What are the limits in the approved BIO that apply to fissile grams, curies, etc.

Answer: Reference Section L, Attachment L-4, Representative Sample Task, Figures 9 and 11 and Table 7. The limits in the current approved BIO are 3.0E+4 plutonium equivalent grams (PEg). This includes a limit of 400 PEg for the first floor of the FSMHF area outside the Hotcell (Area 4 on Figure 9), a limit of 300 PEg for the second floor area of the FSMF (Figure 11), and a limit of 2300 PEg for the Hotcell. Offerors should assume that the current Basis for Interim Operation (BIO) adequately encompasses the waste materials and inventory provided in Table 7 and the suspected number of samples in the within-floor storage tubes in Area 2. In addition, the BIO adequately analyzes and describes the storage, movement within the FSMHF, repackaging, and shipment of these items. All known fissile material is provided in Table 7 with the exception of the suspected number of samples in the within-floor storage tubes in Area 2.

The solicitation will be amended.

Question L-140: What are the facility limits on fissile debris accumulation?

Answer: See answer to Question L-139.

Question L-141: Please provide a summary of the operating limits in the approved BIO for S&M.

Answer: See answer to Question L-139.

Question L-142: Are there any storage limits inside the hot cell?

Answer: See answer to Question L-139.

Question L-143: Is there any fissile material in the hot cell or glove boxes not already contained in the Table 7 waste cans?

Answer: Reference Section L, Attachment L-4, Section 4.3, 5th paragraph. Section 4.3 states "An inventory of remaining known wastes in the FSMHF is provided in Table 7….". All known accountable fissile material is provided in Table 7 with the exception of the suspected number of samples in the within-floor storage tubes in Area 2. In addition, the Hotcell contains residual contamination exceeding the DOE-STD-1027 radionuclide threshold for a Hazard Category 2 Nuclear Facility.

The solicitation will be amended.

REVISED ANSWERS

The answer to the following questions is hereby revised as follows:

Question L-13: Do the 25 each residue cans in Table 7 contain 400 grams each of U-235 or 400 grams total for all 25 cans combined?

Revised Answer: Reference Section L, Attachment L-4, Representative Sample Task, Table 7. Offerors should assume that the total amount of U-235 contained in the all of the 25 cans is 400 grams.

The solicitation will be amended.

Question L-14: Section L, Attachment L-4, Table 7, page 33: Regarding the residue cans identified in the table, is the inventory of each residue can 1200 grams with 400 grams being U-235 or is the total inventory of the combined 25 residue cans 1200 grams with 400 grams being U-235? Please clarify.

Revised Answer: Reference Section L, Attachment L-4, Representative Sample Task, Table 7. Offerors should assume that the total amount of U-235 contained in the all of the 25 cans is 400 grams.

The solicitation will be amended.